# External Financing, Growth and Stock Returns*

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**Abstract:** In this paper we investigate the relation of the value/growth anomaly with the anomaly on corporate financing activities. We confirm and expand earlier results that value/growth and external financing indicators are, to some degree, related predictors of stock returns in the cross section. We show that external financing indicators are incrementally informative since they pick up stock returns associated with earnings quality. Portfolios that combine information from both these indicators generate significantly higher returns than portfolios containing each individual indicator. More importantly, our analysis strongly suggests that the external financing anomaly is, to some extent, distinct from the value/growth anomaly, in that it may also reflect investors' misunderstanding of the effects of opportunistic earnings management.

***Keywords:*** Corporate financing activities, value/growth, earnings quality, stock returns
***JEL classification:*** G10, M4

## 1 Introduction

Since Graham and Dodd (1934), many studies have argued that value firms exhibit higher returns than growth firms, a relation that is known as the "value/growth anomaly".[1] Associated with these studies, there is a large literature documenting that future returns are lower after stock issues and debt issues and higher after stock repurchases and dividend initiations, the so called "external financing anomaly".[2] In this paper we present new evidence on the relation of these two market anomalies and, in particular, suggest that the anomalies can be distinct due to earnings management.

The previous literature suggested a common source for the two anomalies: expectational errors or risk compensation considerations. There is, however, the possibility that these prominent market anomalies reflect distinct driving forces and such a possibility has not yet been considered/empirically tested in the literature. Our analysis thus focuses on examining the connection between the two anomalies by testing the null hypothesis: "the impact of value/growth and external financing on future returns is driven by a common source" against the alternative hypothesis: "the impact of value/growth and external financing on future returns is driven by separate sources, including earnings management".

Relative recent studies documenting the connection between the two anomalies include Brav (2000), Hovakimian et al. (2001) and Bali et al. (2008). Brav (2000) finds that the stock price underperformance of firms which are engaged in stock issues is similar to the underperformance of firms with low book to market ratios which are not engaged in stock issues. Hovakimian et al. (2001) report that the probability of stock issues (repurchases) vis-à-vis debt issues (repayments) increases (decreases) with the pre-issue market to book ratios. Finally, Bali et al. (2008) show that returns to contrarian strategies are magnified only when value firms repurchase stock (value repurchasers) and growth firms issue stock (growth issuers) are considered. These studies ignored the implications of earnings management, something that we explore in our work.

In the context of testing our null hypothesis we extend past empirical research in two respects. First, we use measures of the net amount of cash generated by a firm's entire portfolio of corporate financing activities (equity and debt). These measures allow us to simultaneously examine interactions of entire and individual financing transactions with value/growth indicators. In the previous literature similar measures, mostly on the side of equity, were used but only for a subset of the questions we address in this paper. Second, our testing approaches forces us to use particular accounting decompositions for variables that are used to proxy for either expectational

[1] See Basu (1977), Jaffe et al. (1989), Chan et al. (1991), Rosenberg et al. (1985), Fama and French (1992, 1993, 1996), Lakonishok et al. (1994), La Porta (1996), La Porta et al. (1997), Doukas et al. (2002).

[2] See Ritter (1991, 2003), Loughran and Ritter (1995, 1997), Spiess and Affleck-Graves (1999), Billet et al. (2001), Ikenberry et al. (1995), Michaely et al. (1995), Affleck-Graves and Miller (2006), Daniel and Titman (2006), Bradshaw et al. (2006), Cohen and Lys (2006), Pontiff and Woodgate (2008) and Fama and French (2008).

errors or distress risk. Specifically, we assess the economic significance of various financial characteristics, such as leverage and accruals, in explaining the cross sectional variation in stock returns associated with net external financing activities, value/growth indicators and their interactions. In addition, and to account for the possibility of opportunistic earnings manipulation, we separate accruals attributable to growth from those attributable to earnings management – a necessary step in assessing the validity of our null hypothesis.

The remainder of the paper is organized as follows: Section 2 provides a review of our motivation and a detailed description of our research design. In section 3 we present our data, sample formation, variable measurement. In section 4 we present and discuss our empirical results. Finally, in section 5 we summarize our analysis and offer some concluding remarks.

## 2 Motivation and Research Design

### Motivation

Before presenting our research design we go over the results of some past influential papers that motivate us to investigate the relation of the value/growth effect and the corporate financing effect. We pay particular attention to explicitly show how the two anomalies could be related and where our work differs, in its motivation and methodology.

Lakonishok et al. (1994) postulate that investors extrapolate the weak (strong) past growth rates of value (growth) firms to form pessimistic (optimistic) expectations about their future growth rates. La Porta (1996), consistent with the extrapolation hypothesis, suggests that the predictive ability of book to market ratio for future stock returns is partially explained by its relation with analysts' forecast errors and revisions.[3]

Loughran and Ritter (1995) hypothesize that firms exploit a transitory window of opportunity by issuing (repurchasing) securities when they are overvalued (undervalued) to interpret the negative relation of corporate financing activities and stock returns. External financing decisions may thus reveal managers' private information about mispricing. Consistent with the misvaluation/market timing hypothesis, Loughran and Ritter (1997) show that equity issuers have strong past operating performance in the year leading up to the issue. In a similar vein, Bradshaw et al. (2006) show a positive relation between external financing and analysts' over-optimism. They also provide evidence that over-optimism is tailored to the type of security being issued: for debt issuances is restricted to short term analyst's forecasts errors, while for equity issuances extends to long term analysts' forecasts errors. Cohen and Lys (2006), demonstrate that accruals subsume stock returns following net equity and debt financing activities. Prior research by Dechow et al. (1998) and Richardson et al. (2006) showed that accruals have a

[3] Forecast errors and revisions are used to capture investors' errors-in-expectations about future performance.

strong positive relation with past sales growth. Note that according to Lakonishok et al. (1994), naïve investors form their expectations on the basis of past sales growth. As such, one can expect a potential relation between the value/growth anomaly and the external financing anomaly, driven from investors' upward (downward)-biased expectations about the future performance of growth firms and issuers (value firms and repurchasers).

On the other hand, Fama and French (1992, 1993, 1996) argue that superior returns of value stocks are compensation for higher distress risk. In a similar vein, Eckbo et al. (2000) argue that equity issuers have lower risk due to their lower leverage, and thus are priced to yield lower expected return. Based on Khan (2008), accruals, that are found by Cohen and Lys (2006) to capture stock returns following net equity and debt financing activities, have a strong negative relation with leverage. Therefore, the external financing anomaly could be closely related with the value/growth anomaly as by-products of higher default risk.

Note that, while there is some agreement on the existence of the value/growth and external financing anomalies, the risk versus non risk debate on their interpretation is far to be resolved. Indeed, Dechow and Sloan (1997) and Doukas et al. (2002) present conflicting evidence, whether naïve extrapolation of analysts' forecasts of future earnings growth can explain returns to value/growth strategies. At the same time, Fama (1998) and Loughran and Ritter (2000) show that the magnitude of abnormal returns following equity financing activities differs with respect to alternative methodologies used to measure them.

There is at least one reason to believe that the corporate financing anomaly and the value/growth anomaly represent different phenomena and driven by different underlying factors. According to Rangan (1998) and Teoh et al. (1998), managers exploit discretionary accruals to inflate earnings before equity offerings in order to increase the offering proceeds. Investors fail to recognize opportunistic earnings management and naively extrapolate transitory earnings increases, resulting in an overvaluation of issuing firms. As such, distinctions between the anomalies could arise from investor's inability to recognize lower earnings quality associated with opportunistic managerial behavior on the part of new issuers. Our research design and subsequent empirical analysis tries to examine in detail whether the arguments in favor of earnings management are supported by the data.

**Research Design**

In our empirical analysis we use the parsimonious measure of the net amount of cash generated by corporate financing activities (ΔXFIN) employed in Bradshaw et al. (2006). This measure is defined as the difference between cash flows received from issuance of new equity and debt financing (stock issues plus debt issues) and cash flows used for the retirement of existing equity and debt financing (stock repurchases plus dividend payments minus debt repayments). We then, decompose across balance sheet categories based on the nature of the underlying securities that are being issued and retired. In particular, ΔXFIN will be decomposed into net cash flows generated from equity financing activities (ΔEQUITY) and net cash flows generated from debt financing activities (ΔDEBT).

$$\Delta XFIN_t = \Delta EQUITY_t + \Delta DEBT_t \tag{1}$$

ΔEQUITY is defined as the difference between cash flows received from stock issues and cash flows distributed for stock repurchases and dividends payments. Similarly, ΔDEBT is defined as the difference between cash flows received from debt issues and cash flows distributed for debt repayments. This decomposition allows us to focus on the relation of the anomalies on individual and entire corporate financing activities with the value/growth anomaly. For the value/growth effect we consider book to market ratio (BV/MV) as a measure of expected performance.

As discussed in the introduction, in our analysis we assess the economic significance of several financial characteristics in explaining cross sectional variation in stock returns associated with external financing and value/growth measures. In particular, we focus on leverage and accounting accruals. As in prior studies, leverage can be used as distress risk indicator. Accounting accruals represent the difference between earnings and cash flows. By considering accruals we could proxy for either expectational errors or distress risk effects. Nevertheless, Rangan (1998) and Teoh et al. (1998) argue that managers of issuing firms are often engaged in opportunistic earnings manipulation by exploiting discretionary accruals. Recognizing this issue we separate accruals attributable to growth from those attributable to earnings management. In this way, we attempt to capture investors' misunderstanding of the effects of opportunistic earnings management.

As in Titman et al. (2004), leverage (LEV) in our analysis will be defined as the ratio of long term debt to market capitalization. For accruals, most academic research follows Healy (1985) and defines them as growth in working capital less depreciation expense. As pointed out by Richardson et al. (2005, 2006) this definition is narrow since it focuses on accruals relating to net current operating assets and ignores accruals relating to net non current operating assets (e.g. capitalized software development costs, capitalized expenditures, long term receivables). In order to incorporate non current operating accruals, Richardson et al. (2005, 2006) proposes a refined definition, where accruals are measured as change in net operating assets (NOA). NOA are equal the difference between non cash assets (total assets minus cash) and non debt liabilities (total liabilities minus short term debt minus long term debt):

$$NOA_t = (TA_t - C_t) - (TL_t - STD_t - LTD_t) \tag{2}$$

Following Richardson et al. (2006), total accruals (TACC) are measured as change in NOA deflated by lagged NOA:

$$TACC_t = \Delta NOA_t / NOA_{t-1} \tag{3}$$

Further, using the model of Richardson et al. (2006), we decompose accruals into a growth and an efficiency component.[4] This model is consistent with other methods in the accounting literature for distinguishing between non discretionary and discretionary accruals (see Jones 1991, Beneish 1997 and Chan et al. 2006 for a further discussion). The model is based on the idea that accruals are positively related with sales growth rate (SG) and negatively related with reductions in NOA efficiency as captured by the NOA turnover ratio (AT)[5]:

$$TACC_t = \Delta NOA_t / NOA_{t-1} = SG_t - \Delta AT_t / AT_t - (SG_t \times \Delta AT_t / AT_t) \quad (4)$$

The growth component captures accruals associated with sales growth. In contrary, the efficiency component picks up accruals attributable to earnings management or less efficient use of existing capital (see Jansen and Yohn 2003 for a further discussion). The model introduces also an interaction term that captures correlated changes between sales growth and accounting distortions. Thus, if the value/growth anomaly and the external financing anomaly are related, then the growth component should have power in explaining stock returns associated with external financing indicators, conditional on value/growth indicators. At the same time, the ability of the efficiency component to explain those stock returns could be indicative of partial distinctions between the anomalies.

However, we must emphasize that any misspecification in this decomposition can result in misleading inferences. In particular, a potential limitation of the model is that the growth component could also be affected by managerial violation of sales (e.g., overstatement of accounts receivables). Thus, the ability of the growth component to explain cross-sectional variation in stock returns could be overstated. On the other hand, the ability of the efficiency component could be understated to the extent that it is contaminated by the growth component.[6]

Our analysis is organized along three dimensions. First, we investigate financial and return characteristics of portfolios based on the magnitude of BV/MV, ΔXFIN, ΔEQUITY and ΔDEBT. Second, we do the same work for interacted portfolios based on the magnitude of these indicators. Third, we also consider cross regressions in the spirit of Fama and MacBeth (1973). Our methodology allows us to focus on extreme cases where the anomalies have the same prediction and on cases where they do not.

## 3. Data, Sample Formation and Variable Measurement

Our empirical tests are conducted using financial statement data from the Compustat

[4] Richardson et al. (2005) use average total assets as deflator. Richardson et al. (2006) use lagged NOA as deflator, in order to arrive at this decomposition. Empirical results are qualitative similar to both deflators.

[5] Sales growth (SG) is the percentage change in sales, while NOA turnover (AT) is the ratio of sales to NOA.

[6] A potential shortcoming of the model could be also related to possible errors in the measurement of accruals through the balance sheet method, especially in the presence of mergers and acquisitions.

annual database and monthly stock returns data from CRSP monthly files. The CRSP file provides data from 1926, while the Compustat database provides data from 1950. We eliminate pre-1962 observations since the Compustat data prior 1962 suffers from survivorship bias (Fama and French, 1992; Sloan, 1996). Our sample covers all firm-year with available data on Compustat and CRSP for the period 1962-2003. We exclude all firm year observations with SIC codes in the range 6000-6999 (financial companies) because the discrimination between operating and financing activities is not clear for these firms. We require as in Vuolteenaho (2002) all firms to have a December fiscal year end, in order to align accounting variables across firms and obtain tradable investment strategies for our subsequent portfolio assignments. Finally, we eliminate firm year observations with insufficient data on Compustat to compute the primary financial statement variables used in our tests.[7] These criteria yield a final sample size of 105,896 firm year observations with non missing financial statement and stock return data. To our knowledge, our sample size is significantly larger than those used in earlier studies on the relation of the anomaly on corporate financing activities and value/growth anomaly.[8]

We use the indirect method (balance sheet) method to measure the external financing proxies and total accruals as follows[9]:

$$\Delta EQUITY_t = \Delta BV_t - NI_t = \Delta(TA_t - TL_t) - NI_t$$

where:

- $NI_t$ : Net income (data item 18).
- $TA_t$ : Total assets (data item 6).
- $TL_t$ : Total liabilities (data item 181).

$$\Delta DEBT_t = \Delta(STD_t + LTD_t)$$

where:

- $STD_t$ : Short term debt (data item 34).
- $LTD_t$ : Long term debt (data item 9).

$$TACC_t = \Delta NOA_t = \Delta(TA_t - C_t) - \Delta(TL_t - STD_t - LTD_t)$$

where:

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[7] In particular, we eliminate firm year observations if Compustat data items 1, 4, 5, 6 and 181 are missing in both the current and previous year and data item 18 is missing in the current year. If data items 9, 34, are missing, we set them equal to zero rather than eliminating the observation. The results are qualitatively similar if we instead eliminate these observations.

[8] The sample size on Eckbo et al. (2000) contains 7,003 firm-year observations, on Lyandres et al. (2007) 10.084 firm-year observations, while on Bali et al. (2008) contains 33,165 firm-year observations.

[9] We replicate all our empirical tests by using measures of corporate financing activities extracted from the cash flows statement and find qualitatively similar results. However, data from the cash flow statement limit our sample size since they are available from 1988.

- $C_t$ : Cash and cash equivalents (data item 1).

Similar to prior studies, ΔXFIN, ΔEQUITY, ΔDEBT are deflated by average total assets, while TACC by lagged net operating assets (NOA). All variables are then winsorized at +1 and −1 in order to eliminate the influence of outliers. For the value/growth effect, book to market ratio (BV/MV) is measured as the ratio of book value of equity (item 6 – item 181) to the to the market capitalization. [10] Market capitalization is measured as price per share (item 199) times shares outstanding (item 25). Recall also, that in our tests we consider leverage (LEV) that is defined as the ratio of long term debt (data item 9) to market capitalization. For our growth versus efficiency decomposition, sales growth (SG) is measured as the percentage change in sales (data item 12) and change in NOA turnover ratio (ΔAT) as shown in equation (4)[11] :

$$SG_t = \left(Sales_t - Sales_{t-1}\right)/Sales_{t-1}$$

$$\Delta AT_t / AT_t = \left(Sales_t / NOA_t\right) - \left(Sales_{t-1} / NOA_{t-1}\right) / \left(Sales_t / NOA_t\right)$$

The annual one-year ahead raw stock returns $RET$ are measured using compounded 12-month buy-hold returns inclusive of dividends and other distributions from the CRSP monthly files. Then, size-adjusted returns $SRET$ are calculated by deducting the value weighted average return for all firms in the same size-matched decile, where size is market capitalization at the beginning of the return accumulation period. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios.[12] The size portfolios are formed by CRSP and are based on size deciles of NYSE and AMEX firms. If a firm is delisted during our future return window, then the CRSP's delisting return is considered for the calculation of the one-year ahead raw stock return, and any remaining proceeds are re-invested in the CRSP value-weighted market index. This mitigates concerns with potential survivorship biases. If a firm is delisted during our future return window as a result of poor performance (delisting codes 500 and 520-584) and the delisting return is coded as missing by CRSP, then a delisting return of -100% is assumed[13]

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[10] Following Richardson et al. (2006) and Lakonishok et al. (1994) we also exclude firms with negative lagged NOA and negative book value of equity. The results are qualitatively similar with inclusion of such firms.

[11] Following, Richardson et al. (2006) we use the percentage change in sales in order to arrive at growth versus efficiency decomposition of accruals. In unreported tests, we use Lakonishok et al (1994) definition (pre-formation 5-year average growth rate of sales) and Chan et al. (2008) definition (pre-formation 4-year growth in sales per share) and find qualitatively similar results.

[12] Alford et al. (1994) argue that four months after the fiscal year end, all firm's financial statement data are publicly available.

[13] Note that we replicate all results by eliminating these firms from the sample or following Shumway (1997) and assuming delisting return of -30% or assuming a zero delisting return. Our results remain qualitatively similar with respect to these three alternative procedures.

## 4. Results

### *4.1. Simple Portfolios on Book to Market Ratio and External Financing Indicators*

In this section, we investigate abnormal (size-adjusted) returns and financial characteristics of portfolios based on the magnitude of BV/MV, ΔXFIN, ΔEQUITY and ΔDEBT. For this purpose, each year we rank firms independently on these indicators and allocate them into ten equal-sized portfolios (deciles) based on these ranks. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. The portfolios are held for one year and then rebalanced. Table 1, reports time series averages of annual mean values of abnormal returns and characteristics of portfolios based on the magnitude of BV/MV. From the first row, we see that abnormal returns range from -0.015 for the lowest portfolio (growth firms) to 0.046 to the highest portfolio (value firms). The abnormal return for a BV/MV hedge strategy consisting of short (long) position on value (growth) firms is 0.061. Note that the strategy is found profitable in 24 out of 40 years (60%) of our sample period. These findings are consistent with the well documented profits on contrarian strategies. Turning to characteristics, we see that growth (value) firms exhibit low (high) leverage. Further, the time series average of TACC for growth firms is 0.148, while for value firms is -0.008 and not statistically significant. Note that the BV/MV hedge strategy has a negative spread to TACC of about -0.14. Turning to growth versus efficiency decomposition, we see that the accrual exposure is more likely to be explained by sales growth. In particular, the time series averages of SG for growth and value firms are 0.221 and 0.041, respectively, while the spread for the BV/MV strategy is -0.18. On the other hand, the spread of ΔAT is only -0.024, while of the interatction term (SG* ΔAT) is only -0.016. In short, growth firms tend to have stronger performance in sales relative to value firms, but not necessarily lower earnings quality. Overall, our findings are consistent with the extrapolation hypothesis for the superior performance of value/growth strategies. However, we can not rule out a distress risk explanation due to the higher leverage of value firms relative to growth firms.

In panel A of table 2, we provide returns and characteristics of portfolios based on the magnitude of ΔXFIN. At the lowest decile firms are distributing capital, while at the highest decile firms are raising capital. From the first row, we see that abnormal returns of net repurchasers and net issuers are 0.057 and -0.059, respectively. A hedge strategy on ΔXFIN consisting of short (long) position on the lowest (highest) portfolio has an abnormal return equal to 0.116. The strategy is found profitable in 35 out of 40 years (87.5%). These findings confirm prior evidence presented by Bradshaw et al. (2006) and Cohen and Lys (2006) on the superior (poor) performance of firms that distribute (raise) capital. Turning to the second row, we see that net repurchasers have lower leverage than net issuers. This finding raises interesting questions for a leverage (distress risk) explanation for the superior performance of firms that distribute capital relative to those that raise capital. Results also reveal that firms distributing (raising) capital are likely to have low (high) accruals. The time series averages of TACC for net repurchasers and net issuers are -0.09 and 0.383, respectively, while the spread is for the ΔXFIN strategy -0.473. Turning, to the next row, we see that the accrual exposure can be explained by both the growth and the efficiency component. In particular, the time series averages of SG and ΔAT for net repurchasers are 0.063 and 0.127, respectively, while for net issuers are 0.29 and -0.124, respectively. The spread of SG and ΔAT for the ΔXFIN strategy is -0.227 and 0.251, respectively. Note, that the spread of SG*ΔAT is not statistically significant. In short, issuers have both higher sales growth and lower earnings quality relative to repurchasers. Overall, these findings suggest that the predictability of stock returns following net external financing activities is consistent with the misvaluation/market timing hypothesis. However, at the same time we can not rule out a potential important role for an explanation associated with earnings management.

Panel B of table 2, reports returns and characteristics of portfolios formed on the magnitude of ΔEQUITY. Abnormal returns range from 0.046 for equity repurchasers and dividend paying firms, to -0.046 for equity issuers. The hedge return on the ΔEQUITY strategy is 0.092 and positive in 34 out of 40 years (85%). These findings are consistent with prior results of earlier studies, that future returns are low after stock issues (Ritter 1991, Loughran and Ritter 1995, Loughran and Ritter 1997) and high after stock repurchases (Ikenberry et al. 1995) and dividend initiations (Michaely et al. 1995). Issuing firms are found to have higher leverage relative to repurchasers and dividend paying firms. Results also reveal, that issuing firms have higher accruals than repurchasers and dividend paying firms due to higher sales performance and lower earnings quality. In particular, the time series averages of TACC, SG and ΔAT for firms that repurchase stock and pay dividends are 0.024, 0.096 and 0.054, respectively, while for firms that issue stock are 0.183, 0.208 and -0.027, respectively. The spread of TACC, SG and ΔAT for the ΔEQUITY strategy is -0.159, -0.112 and 0.081, respectively.

Similar evidence is also found in panel C of table 3 for ΔDEBT. Firms that repay debt have an abnormal return of about 0.032, firms that issue debt of about -0.034, while the hedge abnormal return for ΔDEBT strategy is 0.066, respectively. Note also that the strategy is found profitable in 32 out of 40 years (80%). These findings confirm results of prior studies, that future returns are low after debt issues (Spiess and Affleck-Graves 1999, Billet et al. 2001) and high debt prepayments (Affleck-Graves and Miller 2006). Debt issuers are also found to have higher leverage and accruals than firms that repay debt. We also find that the time series averages of TACC, SG and ΔAT for firms that repay debt are -0.115, 0.064 and 0.138, respectively, while for firms that issue debt are 0.39, 0.256 and -0.146, respectively. As such, debt issuers have both higher sales growth and lower earnings quality relative to firms that repay debt.

In summary, the above results suggests that value (growth) firms share a common characteristic with firms that are distributing (raising) capital: low (high) sales growth. Further, value firms do not exhibit very important differences on earnings quality with growth firms. On the other hand, firms issuing capital seem to have lower earnings quality than firms distributing capital. These issues motivate us to investigate the extent to which the value/growth effect and the external financing effect overlap with or differ from each other.

### *4.2. Interacted Portfolios on Book to Market Ratio and External Financing Indicators*

So far, the value/growth anomaly has been examined independently from the external financing anomaly. In this section, we investigate the relation between these prominent asset pricing regularities by considering interacted portfolios based on the magnitude of BV/MV, ΔXFIN, ΔEQUITY and ΔDEBT. In order to implement these two-dimensional portfolios, each year we sort firms based on the magnitude of BV/MV and allocate them into ten equally-sized deciles. Subsequently, firms within each BV/MV decile are sorted into ten equally-sized deciles based on the magnitude of external financing indicators. Given that our focus is on extreme deciles, we combine deciles 2-9 together and report results for the lowest (growth) and highest (value) portfolio. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. The portfolios are held for one year and then rebalanced.

Panel A of Table 3, presents abnormal returns (size-adjusted) and characteristics for interacted portfolios based on the magnitude of BV/MV and ΔXFIN, along with their associated t-statistics. For the growth portfolio, we see that abnormal returns range between 0.027 (t=0.956) and -0.129 (t=-3.93), depending on whether firms distribute or issue capital. This finding indicates that only growth issuers generate significant abnormal stock returns. For the value portfolio, we see that abnormal returns range from 0.126 (t=4.143) and -0.072 (t=-3.455) depending on whether firms distribute or issue capital. This finding indicates that both value repurchasers and value issuers are significantly related with future stock returns. However, the performance of the value issuers is in contrary with the prediction of the value/growth effect, but consistent with the prediction of the external financing effect.

Turning to financial characteristics, results reveal that BV/MV for growth repurchasers and growth issuers is 0.15 (t=15.08) and 0.16 (t=14.89), respectively. BV/MV for value repurchasers and value issuers is 2.542 (t=18.54) and 2.522 (t=23.83), respectively. As such, ex-ante we would not expect differences on the performance of growth and value firms, depending on whether firms are net repurchasers and net issuers. From the fourth row, we see that LEV for growth repurchasers is 0.085 (t=11.83), for growth issuers is 0.116 (t=13.92), for value repurchasers is 0.442 (t=23.33), while for value issuers is 0.498 (t=29.41). Thus, the observed return patters can not be explained by differences in leverage. Turning to next row, we see that growth repurchasers have TACC of about -0.054 (t=-2.239), while growth issuers of about 0.358 (t=15.34). TACC for value repurchasers and value issuers is -0.244 (t=-13.84) and 0.277 (t=17.14), respectively. Therefore, accruals might have a potential important role in explaining the observed cross sectional return variation. For our growth versus efficiency decomposition of accruals, we see that SG is 0.107 (t=6.634) for growth repurchasers, 0.374 (t=19.59) for growth issuers, -0.046 (t—3.31) for value repurchasers and 0.165 (t=8.139) for value issuers. Further, for the growth portfolio ΔAT range between 0.129 (t=7.203) and -0.051 (t=-2.638), depending on whether firms distribute or raise capital. For the value portfolio, ΔAT range from 0.179 (t=12.68) for firms that distribute capital to -0.147 (t=-10.89) for firms that raise capital. On the other hand, we do not find significant variation of INT between growth (value) repurchasers and issuers. These findings indicate significant differences in sales growth and earnings quality between growth firms that distribute and raise capital. Similar differences are found between value repurchasers and issuers. In particular, growth issuers that are found to experience negative abnormal stock returns have the highest sales growth. Growth repurchasers that are found to experience insignificant abnormal stock returns have a sales growth rate that is slightly below the mean. Growth issuers are also characterized by lower earnings quality relative to growth repurchasers. Further, value repurchasers that are found to experience positive abnormal stock returns are characterized by negative sales growth and the highest earnings quality. On the other hand, the value issuer portfolio that is found to generate negative abnormal stock returns consists of firms with the lowest earnings quality. Sales growth of those firms is slightly above the mean. Indeed, our evidence suggests that external financing decisions can be used to single out growth (value) firms that experience significantly negative (positive) abnormal stock returns. However, at the same time, our findings suggest that earnings quality could also have an important role on the predictability of stock returns following external financing activities.

In panel B of table 3, we report spreads in abnormal (size-adjusted) returns and characteristics between value repurchasers (VR) and growth issuers (GI), as well as differences between value issuers and (VI) and growth repurchasers (GR), along with their associated t-statistics. From the first row, we see that the abnormal return for the VR-GI portfolio is 0.255 (t=5.095). Thus, the abnormal returns generated from a portfolio that combines information on BV/MV and ΔXFIN are found higher than those from each proxy in isolation. The VI-GR portfolio has an abnormal return of about -0.099 (t=-2.957). Thus, there are also predictable stock returns, when both value/growth and external financing indicators point in the opposite direction. Based on Houge and Loughram (2000), Collins and Hribar (2002) and Desai et al. (2004), these findings suggest possible distinctions between the value/growth effect and the external financing effect. Turning to characteristics, we see that the spread of BV/MV is 2.382 (t=17.87) for the VR-GI portfolio and 2.372 (t=22.31) for the VI-GR portfolio. The spread of LEV for the VR-GI portfolio is found equal to 0.326 (t=17.39), while for the VI-GR portfolio equal to 0.413 (t=22.53). As such, the observed return patterns are not attributable to differences in book to market ratio and leverage. Further, the spread of TACC is -0.602 (t=-32.04) for VR-GI portfolio and 0.331 (t=12.02) for the VI-GR portfolio. For our growth versus efficiency decomposition of accruals we see that the spreads of SG and ΔAT for the VR-GI portfolio are -0.42 (t=17.28) and 0.23 (t=10.46), respectively. On the other hand, the spreads of SG and ΔAT for the VI-GR portfolio are 0.058 (t=2.201) and -0.276 (t=-12.07), respectively. These findings, suggest that the observed return patterns of the VR-GI and VI-GR portfolios could be attributable to differences in both sales growth and earnings quality. Overall, these findings suggest that a possible distinction between the value/growth effect and the external financing effect could be attributable to earnings quality.

In panel A of Table 4, we report returns and characteristics for interacted portfolios based on the magnitude of BV/MV and ΔEQUITY, along with their associated t-statistics. For growth firms, we see that abnormal returns range between 0.023 (t=1.036) and -0.134 (t=-3.392), depending on their equity financing activities. As such, only growth firms that issue stock are negatively related with future stock returns. For value firms, we see that abnormal returns range from 0.054 (t=3.293) and -0.05 (t=-1.951) depending on their equity financing activities. Thus, value firms that distribute capital in the form of repurchases and dividends are positively related with future stock returns.  On the other hand, value firms that raise capital through stock issues are negatively related with future stock returns. Turning to characteristics, we see that the observed return patters can not be explained by differences in book to market ratio and leverage. However, value and growth firms exhibit significant differences in accruals depending on whether their financing transactions increase or decrease outstanding equity. In particular, growth and value that raise capital through stock issues have higher accruals than growth and value firms that distribute capital in the form of repurchases and dividends. Turning to our growth versus efficiency decomposition of accruals, we see that growth firms that issue shares have the highest sales growth, while growth firms that repurchase shares or pay dividends exhibit lower sales growth and higher earnings quality. Further, value firms that repurchase shares or pay dividends have zero sales growth, while value firms that issue shares have the lowest earnings quality. Overall, these findings imply that equity financing transactions can be used to identify growth (value) firms with poor (strong) future stock price performance. However, our findings cannot rule out a significant role for an earnings quality-based explanation in interpreting the poor performance of firms that increase outstanding equity relative to firms that decrease outstanding equity.

Panel B of table 4 presents spreads in returns and characteristics of interacted portfolios based on the magnitude of BV/MV and ΔEQUITY. The abnormal return for the VR-GI portfolio is 0.188 (t=4.157). Thus, the abnormal returns generated from a portfolio that combines information on BV/MV and ΔEQUITY are found higher than those from each proxy in isolation. The VI-GR portfolio has an abnormal return of about -0.073 (t=-2.054). Thus, there are also predictable stock returns when both value/growth and equity financing indicators point in the opposite direction. Turning to characteristics, we see that the return patterns of these portfolios could be attributable to differences in both sales growth and earnings quality. Overall, our evidence suggests that a possible distinction between the anomalies on value/growth and equity financing indicators could be attributable to earnings quality.

Panel A of Table 5 reports returns and characteristics for interacted portfolios based on the magnitude of BV/MV and ΔDEBT, along with their associated t-statistics. As shown, growth firms that repay debt generate insignificant abnormal returns, while firms that issue debt generate abnormal returns of about -0.048 (t=-1.757). The abnormal return of value firms that repay debt is equal to 0.074 (t=2.878), while for firms that issue debt is equal to -0.086 (t=-3.286). These observed return patterns are more likely to be explained by differences in sales growth and earnings quality rather than book to market ratio and leverage. In particular, growth firms that issue debt are characterized by highest sales growth and lower earnings quality relative to growth firms that repay debt. Further, value firms that repay debt have negative sales growth and high earnings quality. On the other hand, value firms that issue debt have the lowest earnings quality among all portfolios.[14] Overall, these results indicate that decisions about debt financing can be informative to single out growth (value) firms with poor (strong) future stock price performance. At the same time, our findings cannot rule out a significant role for an earnings quality-based explanation in interpreting the poor performance of firms that issue debt relative to firms that repay debt.

In panel B of table 5, we present differences in returns and characteristics of interacted portfolios based on the magnitude of BV/MV and ΔDEBT. From the first row, we see that the abnormal return for the VR-GI portfolio is 0.122 (t=2.8). Thus, the abnormal returns generated from a portfolio that combines information on BV/MV and ΔDEBT are found higher than those from each proxy in isolation. The VI-GR portfolio has an abnormal return of about -0.06 (t=-1.966). Thus, there are also predictable stock returns when both value/growth and debt financing indicators point in the opposite direction. Turning to characteristics, we see that the observed return patterns could be attributable to spreads in both sales growth and earnings quality.

### *4.3. Regression Analysis*

In this section we consider return regression tests to investigate the predictive power of value/growth and external financing indicators for the cross sectional variation in expected stock

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[14] The underperformance of "value" debt issuers is higher in magnitude than of "value" equity issuers but their difference in returns is statistically insignificant. Therefore, it is possible that this observed difference arises from potential earnings management on the part of "value" debt issuers. Furthermore, the underperformance of those firms could not be supported by their exposure to past sales growth.

returns. Following Fama and MacBeth (1973), we estimate each year cross sectional regressions of one-year ahead raw stock returns on BV/MV, ΔXFIN, ΔEQUITY and ΔDEBT [15] and report the time series averages of the resulting parameter coefficients.[16] The reported t-statistics (in parenthesis) are based on the means and standard deviations of the parameter coefficients obtained in the annual cross sectional regressions.

Panel A of table 6, presents results from regressions of future raw stock returns on BV/MV, ΔXFIN. Consistent with prior research, the coefficient on BV/MV is positive and statistical significant at the 1% level. When we test, the association between future annual stock returns and ΔXFIN, we find that the coefficient is equal to -0.231 (t=-6.487) and statistical significant at the 1% level. Prior research by Bradshaw et al. (2006) and Cohen and Lys (2006) found an almost identical coefficient for this external financing indicator. Once, we include both BV/MV and ΔXFIN in the regression, their coefficients do not change in magnitude and statistical significance. In panel B of table 6 we report results based on the decomposition of ΔXFIN into ΔEQUITY and ΔDEBT. Consistent with Bradshaw et al. (2006) and Cohen and Lys (2006), the coefficients on both components are negatively and statistical significant at the 1% level.[17] Further, after controlling for BV/MV, the coefficients on ΔEQUITY and ΔDEBT remain almost identical in magnitude and statistical significance. As such, these findings indicate that ΔXFIN, ΔEQUITY and ΔDEBT are significantly related with future stock returns before and after controlling for BV/MV.

In panel C, we supplement our analysis by presenting results from regressions of one-year ahead raw stock returns on external financing indicators after controlling for SG and ΔAT. In this way, we assess the source of the predictive power of those indicators about future stock returns. Starting with univariate regressions, we see that the coefficient on SG is -0.071 (-2.966), while on ΔAT is 0.055 (t=2.884). However, after controlling for ΔXFIN, we see that the coefficient on SG decreases by more than 50% to -0.035 (as compared to -0.071), while the coefficient on ΔAT decreases by more than 70% to 0.014 (as compared to 0.055). Both coefficients are no longer statistically significant at conventional levels. Similar results are also found in the last tow rows, where regressions are based on the decomposition of ΔXFIN into ΔEQUITY and ΔDEBT. As such these findings suggest that the predictive power of SG and ΔAT about future stock returns is subsumed by that of ΔXFIN, ΔEQUITY and ΔDEBT.

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[15] We also use size (natural logarithm of market capitalization) as an asset pricing control variable in the regressions.

[16] In unreported tests we estimate regressions by expressing variables as portfolio decile ranking to control for the effects of outliers and potential non-linearities and find qualitatively similar results.

[17] Consistent with Bradshaw et al. (2006) and Cohen and Lys (2006), coefficients on both ΔEQUITY and ΔDEBT increase in magnitude and significance in the multivariate regressions, suggesting the importance of considering both sources of financing simultaneously. In particular, possible refinancing transactions imply a negative correlation between ΔEQUITY and ΔDEBT and thus lead to correlated omitted variables biases in the univariate regressions that are not present in the multivariate regression

In summary, our evidence in table 6 suggests that the value/growth anomaly and the external financing anomalies could be to some degree related to common information: growth in sales. However, at the same time these prominent asset pricing regularities could be also to some extent distinct due to the fact that external financing indicators pick up stock returns associated with earnings quality.

### *4.4. Robustness Tests*

In this section, we repeat regressions of one-year ahead raw stock returns on BV/MV and ΔXFIN for subsamples where they have same and opposite predictions for future stock returns. To form these subsamples, we first divide the entire sample across the value/growth dimension so that one half contains predominantly growth firms and the other predominantly value firms. Then, we identify net issuers and net repurchasers in each of these groups. In particular, the first subsample (overlap subsample) consists of growth firms that are also issuers (firms with lower than median BV/MV & higher than median ΔXFIN) and value firms that are also repurchasers (firms with higher than median BV/MV & lower than median ΔXFIN). The second subsample (non-overlap subsample) contains growth firms that are also repurchasers (firms with lower than median BVMV & ΔXFIN) and value firms that are also issuers (firms with higher than median BV/MV & ΔXFIN). If the anomalies on BV/MV and ΔXFIN are completely unrelated, then the coefficients on both indicators are expected to be strong and statistically significant on both subsamples. From panel A of table 7 that presents results for the overlap subsample, we see that the coefficient on BV/MV is 0.058 (t=4.002), while on ΔXFIN is -0.3 (-4.794). Note that in the overlap subsample, the coefficient estimate of BV/MV increases by more than 100% (as compared to 0.027 in the entire sample), while the coefficient estimate of ΔXFIN increases by 30% (as compared to -0.231 in the entire sample). When, both BV/MV and ΔXFIN are included in the regression, the coefficient on BV/MV decreases by 38% to 0.036 (as compared to 0.058), while the coefficient on ΔXFIN decreases by 30 % to -0.209 (as compared to -0.3 in the entire sample). Both coefficients remain statistically significant at the 1% level. Turning to panel B that reports results for the non-overlap subsample, we see that BV/MV has an insignificant coefficient on both univariate and multivariate regressions. In contrary, the coefficient on ΔXFIN is -0.103 (t=-2.271) on the univariate regression and -0.153 (t=-3.212) in the multivariate regression. As such, there is a negative association between net external financing and stock returns on both subsamples, although the association is somewhat weaker on the non-overlap subsample. In summary, our findings from table 7 confirm prior evidence that the value growth effect and the external financing effect are to some degree related and to some extent represent distinct market anomalies.

## 5. Concluding Remarks

In this paper we examine whether the "value/growth anomaly" and the "external financing anomaly" capture different forms of the same underlying pattern in stock returns to get a deeper understanding of their underlying sources. In the earlier literature each of these prominent market anomalies has been extensively studied independently, yet their connection and economic interpretation remains controversial.

The most crucial contribution of our work is that we consider and empirically test whether the two anomalies can be attributed to common or separate sources. The testing approach requires a systematic joint examination of the two anomalies and specific accounting decompositions which we use in our analysis. Our overall results support the argument that there is a distinction between the two market anomalies, which can be attributed to opportunistic earnings manipulation on the part of issuing firms. In particular, positive (negative) abnormal stock returns of value (growth) firms are magnified only when repurchasers (issuers) are considered. Value repurchasers (growth issuers) are characterized by low (high) sales growth and high (low) earnings quality. However, value issuers that are characterized by the lowest earnings quality are also found to experience negative abnormal stock returns. Note that these return patterns are not found to be explained by differences in leverage. All in all, earnings quality has an important role on the predictability of stock returns, following external financing activities, thus making the external financing indicators incrementally informative to value/growth indicators for future returns.

Our analysis is highly suggestive of certain questions that are prompted by our results. Is opportunistic earnings management the only potential distinct factor behind these anomalies? Can such earnings management be rationally priced? How do the results change when the variables and decompositions used are changed as well? Each of these questions is beyond the scope of the present paper and we leave them for future work.

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**Table 1**
*SRET* **and Characteristics of Portfolios on** *BVMV*

**Panel A:** *SRET* **and Characteristics for Decile Portfolios sorted by Book to Market Ratio (** *BVMV* **)**

| Parameter | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Spread (10-1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $SRET$ | -0.015 | 0.004 | 0.011 | **0.016** | **0.023** | **0.032** | **0.024** | **0.039** | **0.042** | **0.046** | **0.061** |
| $BV/MV$ | **0.176** | **0.339** | **0.464** | **0.583** | **0.7** | **0.822** | **0.96** | **1.141** | **1.427** | **2.534** | **2.358** |
| $\Delta XFIN$ | **0.041** | -0.001 | -0.011 | **-0.017** | **-0.02** | **-0.021** | **-0.015** | **-0.021** | **-0.018** | **-0.021** | **0.062** |
| $LEV$ | **0.1** | **0.129** | **0.165** | **0.197** | **0.226** | **0.256** | **0.288** | **0.326** | **0.359** | **0.454** | **0.353** |
| $TACC$ | **0.148** | **0.149** | **0.138** | **0.123** | **0.106** | **0.094** | **0.081** | **0.064** | **0.046** | 0.008 | **-0.14** |
| $SG$ | **0.221** | **0.182** | **0.158** | **0.145** | **0.123** | **0.106** | **0.103** | **0.09** | **0.074** | **0.041** | **-0.18** |
| $\Delta AT$ | **0.033** | 0.008 | -0.002 | -0.001 | -0.003 | -0.006 | 0.002 | 0.005 | 0.005 | 0.009 | **-0.024** |
| $SG*\Delta AT$ | **0.04** | **0.025** | **0.022** | **0.023** | **0.02** | **0.018** | **0.02** | **0.021** | **0.023** | **0.024** | **-0.016** |

*Notes:* Table 1 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics for portfolios formed on the magnitude of book to market ratio $BV/MV$. Portfolios are constructed by ranking firms on $BV/MV$ and allocate them into ten equal-sized portfolios (deciles) based on these ranks. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Time series averages of the spreads in characteristics across the highest and the lowest decile are also reported. Bold numbers indicate significance at less than 10% level. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003.

**Variable Measurement**

$SRET$ are calculated by deducting from annual one-year ahead raw stock returns $RET$, the value weighted average return for all firms in the same size-matched decile, where size is market capitalization at the beginning of the portfolio formation month (four months after fiscal year end). $RET$ are measured using compounded 12-month buy-hold returns inclusive of dividends and other distributions from the CRSP monthly files. Market capitalization is measured as price per share (item 199) times shares outstanding (item 25). $BV/MV$ is defined as the ratio of book value of equity (item 6 -item 181) to market capitalization. $LEV$ is the leverage ratio, defined as the ratio of long term debt $LTD$ (item 9) to market capitalization. $TACC$ are total accruals, defined as the change in net operating assets $NOA$. $TACC$ are calculated as $\Delta NOA_t / NOA_{t-1}$. $NOA$ are defined as the difference between non cash assets (total assets minus cash) and non debt liabilities (total liabilities minus short term debt minus long term debt) $(TA-C)-(TL-STD-LTD)$, where $TA$ are total assets (data item 6), $C$ are cash and cash equivalents (data item 1), $STD$ is short term debt (data item 34) and $TL$ are total liabilities (data item 181). $SG$ is sales growth, measured as the percentage change in sales (data item 12) $(Sales_t / Sales_{t-1})-1$. $\Delta AT$ is the change in NOA turnover ratio, measured as in equation (4) $(Sales_t / NOA_t)-(Sales_{t-1}/NOA_{t-1})/(Sales_t/NOA_t)$. $SG*\Delta AT$ is the product of $SG$ and $\Delta AT$.

**Table 2**
**$SRET$ and Characteristics of Portfolios on $BVMV$ and External Financing Measures**

**Panel A: $SRET$ and Characteristics for Decile Portfolios sorted by Net External Financing ( $\Delta XFIN$ )**

| Parameter | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Spread (1-10) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $SRET$ | **0.057** | **0.046** | **0.051** | **0.04** | **0.035** | **0.032** | 0.017 | 0.013 | -0.009 | **-0.059** | **0.116** |
| $\Delta XFIN$ | **-0.263** | **-0.143** | **-0.104** | **-0.077** | **-0.053** | **-0.031** | **-0.008** | **0.022** | **0.076** | **0.248** | **-0.511** |
| $LEV$ | **0.17** | **0.201** | **0.232** | **0.252** | **0.254** | **0.269** | **0.271** | **0.282** | **0.293** | **0.275** | **-0.105** |
| $TACC$ | **-0.09** | 0.004 | **0.024** | **0.034** | **0.049** | **0.07** | **0.108** | **0.155** | **0.219** | **0.383** | **-0.473** |
| $SG$ | **0.063** | **0.089** | **0.092** | **0.093** | **0.096** | **0.103** | **0.11** | **0.134** | **0.172** | **0.29** | **-0.227** |
| $\Delta AT$ | **0.127** | **0.063** | **0.047** | **0.037** | **0.026** | **0.013** | **-0.018** | **-0.044** | **-0.074** | **-0.124** | **0.251** |
| $SG * \Delta AT$ | **0.026** | **0.022** | **0.021** | **0.021** | **0.021** | **0.02** | **0.02** | **0.023** | **0.027** | **0.031** | -0.005 |

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*Notes:* Table 2 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics for portfolios formed on the magnitude of net external financing $\Delta XFIN$. Portfolios are constructed by ranking firms on $\Delta XFIN$ and allocate them into ten equal-sized portfolios (deciles) based on these ranks. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Time series averages of the spreads in characteristics across the lowest and the highest decile are also reported. Bold numbers indicate significance at less than 10% level. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003.

**Variable Measurement**

$\Delta XFIN$ is net external financing, calculated as the sum of net equity financing $\Delta EQUITY$ and net debt financing $\Delta DEBT$. $\Delta EQUITY$ is defined as difference between the change in total equity and net income $\Delta(TA - TL) - NI$, where : $TA$ are total assets (data item 6), $TL$ are total liabilities (data item 181) and $NI$ is net income (data item 18). $\Delta DEBT$ is defined as the change in short term and long term debt $\Delta(STD + LTD)$, $STD$ is short term debt (data item 34) and $LTD$ is long term debt (data item 9). All other variables are defined in table1.

| **Panel B:** $SRET$ **and Characteristics for Decile Portfolios sorted by Net Equity Financing (** $\Delta EQUITY$ **)** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **Spread (1-10)** |
| $SRET$ | **0.046** | **0.042** | **0.035** | **0.023** | **0.015** | **0.04** | **0.034** | **0.029** | 0.002 | **-0.046** | **0.092** |
| $\Delta EQUITY$ | **-0.224** | **-0.123** | **-0.095** | **-0.078** | **-0.062** | **-0.048** | **-0.034** | **-0.018** | **0.01** | **0.156** | **-0.38** |
| $LEV$ | **0.132** | **0.191** | **0.252** | **0.282** | **0.293** | **0.301** | **0.313** | **0.298** | **0.248** | **0.191** | **-0.059** |
| $TACC$ | 0.024 | **0.084** | **0.09** | **0.093** | **0.088** | **0.09** | **0.102** | **0.1** | **0.102** | **0.183** | **-0.159** |
| $SG$ | **0.096** | **0.118** | **0.116** | **0.114** | **0.113** | **0.109** | **0.113** | **0.12** | **0.136** | **0.208** | **-0.112** |
| $\Delta AT$ | **0.054** | **0.019** | **0.01** | 0.004 | 0.007 | 0.001 | -0.008 | -0.004 | -0.003 | **-0.027** | **0.081** |
| $SG * \Delta AT$ | **0.018** | **0.015** | **0.016** | **0.017** | **0.018** | **0.018** | **0.019** | **0.024** | **0.037** | **0.052** | **-0.034** |

| **Panel C:** $SRET$ **and Characteristics for Decile Portfolios sorted by Net Debt Financing (** $\Delta DEBT$ **)** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **Spread (1-10)** |
| $SRET$ | **0.032** | **0.057** | **0.039** | **0.047** | **0.04** | 0.014 | **0.02** | 0.004 | 0.002 | **-0.034** | **0.066** |
| $\Delta DEBT$ | **-0.145** | **-0.044** | **-0.019** | **-0.006** | **0.001** | **0.011** | **0.028** | **0.052** | **0.092** | **0.213** | **-0.358** |
| $LEV$ | **0.264** | **0.267** | **0.236** | **0.164** | **0.144** | **0.203** | **0.275** | **0.302** | **0.309** | **0.337** | **-0.073** |
| $TACC$ | **-0.116** | **-0.027** | **0.016** | **0.059** | **0.073** | **0.073** | **0.113** | **0.155** | **0.218** | **0.39** | **-0.506** |
| $SG$ | **0.064** | **0.082** | **0.09** | **0.095** | **0.116** | **0.118** | **0.119** | **0.135** | **0.166** | **0.256** | **-0.192** |
| $\Delta AT$ | **0.138** | **0.079** | **0.049** | 0.013 | **0.019** | **0.023** | **-0.013** | **-0.038** | **-0.07** | **-0.146** | **0.284** |
| $SG * \Delta AT$ | **0.042** | **0.03** | **0.025** | **0.023** | **0.024** | **0.022** | **0.019** | **0.018** | **0.018** | **0.012** | **0.03** |

*Notes:* Table 3 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics for portfolios formed on the magnitude of net equity financing $\Delta EQUITY$. Portfolios are constructed by ranking firms on $\Delta EQUITY$ and allocate them into ten equal-sized portfolios (deciles) based on these ranks. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Time series averages of the spreads in characteristics across the lowest and the highest decile are also reported. Bold numbers indicate significance at less than 10% level. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003. $\Delta EQUITY$ is defined in panel A of table 2, while all other variables in table1.

*Notes:* Table 3 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics for portfolios formed on the magnitude of net debt financing $\Delta DEBT$. Portfolios are constructed by ranking firms on $\Delta DEBT$ and allocate them into ten equal-sized portfolios (deciles) based on these ranks. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Time series averages of the spreads in characteristics across the lowest and the highest decile are also reported. Bold numbers indicate significance at less than 10% level. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003. $\Delta DEBT$ is defined in panel A of table 2, while all other variables in table1.

**Table 3**
**$SRET$ and characteristics of Interacted Portfolios on $BV/MV$ and $\Delta XFIN$**

**Panel A: $SRET$ and characteristics of $\Delta XFIN(1)$ and $\Delta XFIN(10)$, conditional on $BV/MV$**

| | $BV/MV(1)$ | | $BV/MV(10)$ | |
|---|---|---|---|---|
| **Parameters** | $\Delta XFIN(1)$ | $\Delta XFIN(10)$ | $\Delta XFIN(1)$ | $\Delta XFIN(10)$ |
| $SRET$ | 0.027<br>(0.956) | -0.129<br>(-3.93) | 0.126<br>(4.143) | -0.072<br>(-3.455) |
| $BV/MV$ | 0.15<br>(15.08) | 0.16<br>(14.89) | 2.542<br>(18.54) | 2.522<br>(23.83) |
| $LEV$ | 0.085<br>(11.83) | 0.116<br>(13.92) | 0.442<br>(23.33) | 0.498<br>(29.41) |
| $TACC$ | -0.054<br>(-2.239) | 0.358<br>(15.34) | -0.244<br>(-13.84) | 0.277<br>(17.14) |
| $SG$ | 0.107<br>(6.634) | 0.374<br>(19.59) | -0.046<br>(-3.31) | 0.165<br>(8.139) |
| $\Delta AT$ | 0.129<br>(7.203) | -0.051<br>(-2.638) | 0.179<br>(12.68) | -0.147<br>(-10.89) |
| $SG*\Delta AT$ | 0.032<br>(6.606) | 0.067<br>(6.299) | 0.019<br>(3.922) | 0.035<br>(6.62) |

**Panel B: Spreads of $SRET$ and characteristics between Interacted Portfolios on $BV/MV$ and $\Delta XFIN$**

| **Parameters** | **VR-GI** | **VI-GR** |
|---|---|---|
| $SRET$ | 0.255<br>(5.095) | -0.099<br>(-2.957) |
| $BV/MV$ | 2.382<br>(17.87) | 2.372<br>(23.31) |
| $LEV$ | 0.326<br>(17.39) | 0.413<br>(22.53) |
| $TACC$ | -0.602<br>(-32.04) | 0.331<br>(12.02) |
| $SG$ | -0.42<br>(-17.28) | 0.058<br>(2.201) |
| $\Delta AT$ | 0.23<br>(10.46) | -0.276<br>(-12.07) |
| $SG*\Delta AT$ | -0.048<br>(-4.094) | 0.003<br>(0.385) |

*Notes:* Panel A of Table 3 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics along with their associated t-statistics for interacted portfolios formed on the magnitude of book to market ratio $BV/MV$ and net external financing $\Delta XFIN$. Firms are ranked annually on $BV/MV$ and allocated into ten equal-sized portfolios (deciles) based on these ranks. Subsequently, firms within each $BV/MV$ decile are sorted on ten equally-sized deciles based on the magnitude of $\Delta XFIN$. Given that our focus is on extreme deciles, we report results for the lowest and the highest decile. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Panel B reports time series averages of the spreads in $SRET$ and characteristics along with their associated t-statistics between value repurchasers (VR) and growth issuers (GI) denoted by VR-GI, and between value issuers (VI) and growth repurchasers (GR) denoted by VI-GR. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003. $\Delta XFIN$ is defined in panel A of table 2, while all other variables in table1.

**Table 4**
**$SRET$ and characteristics of Interacted Portfolios on $BV/MV$ and $\Delta EQUITY$**

**Panel A: $SRET$ and characteristics of $\Delta EQUITY(1)$ and $\Delta EQUITY(10)$, conditional on $BV/MV$**

| | $BV/MV(1)$ | | $BV/MV(10)$ | |
|---|---|---|---|---|
| **Parameters** | $\Delta EQUITY(1)$ | $\Delta EQUITY(10)$ | $\Delta EQUITY(1)$ | $\Delta EQUITY(10)$ |
| $SRET$ | 0.023<br>(1.036) | -0.134<br>(-3.932) | 0.054<br>(3.293) | -0.05<br>(-1.951) |
| $BV/MV$ | 0.153<br>(15.51) | 0.163<br>(15.08) | 2.503<br>(18.7) | 2.722<br>(21.44) |
| $LEV$ | 0.07<br>(9.471) | 0.063<br>(10.03) | 0.43<br>(21.79) | 0.38<br>(20.49) |
| $TACC$ | 0.036<br>(1.619) | 0.211<br>(9.882) | -0.109<br>(-4.682) | 0.075<br>(4.597) |
| $SG$ | 0.132<br>(8.575) | 0.311<br>(18.003) | 0.003<br>(0.203) | 0.063<br>(3.215) |
| $\Delta AT$ | 0.073<br>(4.928) | 0.02<br>(1.326) | 0.097<br>(5.881) | -0.062<br>(-4.626) |
| $SG*\Delta AT$ | 0.023<br>(4.991) | 0.08<br>(8.37) | 0.015<br>(4.024) | 0.05<br>(9.136) |

**Panel B: Spreads of $SRET$ and characteristics between Interacted Portfolios on $BV/MV$ and $\Delta EQUITY$**

| **Parameters** | **VR-GI** | **VI-GR** |
|---|---|---|
| $SRET$ | 0.188<br>(4.157) | -0.073<br>(-2.054) |
| $BV/MV$ | 2.34<br>(17.8) | 2.569<br>(21.04) |
| $LEV$ | 0.367<br>(17.27) | 0.31<br>(14.54) |
| $TACC$ | -0.32<br>(-13.7) | 0.039<br>(1.716) |
| $SG$ | -0.308<br>(-14.93) | 0.069<br>(2.711) |
| $\Delta AT$ | 0.077<br>(4.088) | -0.135<br>(-6.821) |
| $SG*\Delta AT$ | -0.065<br>(-6.109) | 0.027<br>(4.232) |

*Notes:* Panel A of Table 4 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics along with their associated t-statistics for interacted portfolios formed on the magnitude of book to market ratio $BV/MV$ and net equity financing $\Delta EQUITY$. Firms are ranked annually on $BV/MV$ and allocated into ten equal-sized portfolios (deciles) based on these ranks. Subsequently, firms within each $BV/MV$ decile are sorted on ten equally-sized deciles based on the magnitude of $\Delta EQUITY$. Given that our focus is on extreme deciles, we report results for the lowest and the highest decile. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Panel B reports time series averages of the spreads in $SRET$ and characteristics along with their associated t-statistics between value repurchasers (VR) and growth issuers (GI) denoted by VR-GI, and between value issuers (VI) and growth repurchasers (GR) denoted by VI-GR. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003. $\Delta EQUITY$ is defined in panel A of table 2, while all other variables in table1.

**Table 5**

**$SRET$ and characteristics of Interacted Portfolios on $BV/MV$ and $\Delta DEBT$**

**Panel A: $SRET$ and characteristics of $\Delta DEBT(1)$ and $\Delta DEBT(10)$, conditional on $BV/MV$**

| | $BV/MV(1)$ | | $BV/MV(10)$ | |
|---|---|---|---|---|
| **Parameters** | $\Delta DEBT(1)$ | $\Delta DEBT(10)$ | $\Delta DEBT(1)$ | $\Delta DEBT(10)$ |
| $SRET$ | -0.026<br>(-0.715) | -0.048<br>(-1.757) | 0.074<br>(2.878) | -0.086<br>(-3.286) |
| $BV/MV$ | 0.167<br>(15.61) | 0.164<br>(16.45) | 2.601<br>(18.05) | 2.463<br>(21.75) |
| $LEV$ | 0.133<br>(14.51) | 0.182<br>(23.04) | 0.464<br>(23.77) | 0.552<br>(37.22) |
| $TACC$ | -0.081<br>(-5.109) | 0.418<br>(20.72) | -0.207<br>(-14.41) | 0.27<br>(18.06) |
| $SG$ | 0.132<br>(7.404) | 0.352<br>(19.04) | -0.046<br>(-2.465) | 0.156<br>(8.888) |
| $\Delta AT$ | 0.149<br>(11.9) | -0.098<br>(-5.814) | 0.13<br>(10.05) | -0.139<br>(-11.06) |
| $SG * \Delta AT$ | 0.064<br>(10.02) | 0.032<br>(4.305) | 0.031<br>(5.788) | 0.025<br>(5.319) |

**Panel B: Spreads of $SRET$ and characteristics between Interacted Portfolios on $BV/MV$ and $\Delta DEBT$**

| **Parameters** | **VR-GI** | **VI-GR** |
|---|---|---|
| $SRET$ | 0.122<br>(2.8) | -0.06<br>(-1.966) |
| $BV/MV$ | 2.437<br>(17.33) | 2.296<br>(21.08) |
| $LEV$ | 0.282<br>(13.47) | 0.419<br>(24.76) |
| $TACC$ | -0.625<br>(-31.64) | 0.351<br>(18.42) |
| $SG$ | -0.398<br>(-15.35) | 0.024<br>(0.984) |
| $\Delta AT$ | 0.228<br>(12.09) | -0.288<br>(-17.75) |
| $SG * \Delta AT$ | -0.001<br>(-0.118) | -0.039<br>(-5.16) |

*Notes:* Panel A of Table 5 reports time series averages of annual mean values of size-adjusted returns $SRET$ and financial characteristics along with their associated t-statistics for interacted portfolios formed on the magnitude of book to market ratio $BV/MV$ and net debt financing $\Delta DEBT$. Firms are ranked annually on $BV/MV$ and allocated into ten equal-sized portfolios (deciles) based on these ranks. Subsequently, firms within each $BV/MV$ decile are sorted on ten equally-sized deciles based on the magnitude of $\Delta DEBT$. Given that our focus is on extreme deciles, we report results for the lowest and the highest decile. The portfolios are held for one year and then rebalanced. Note that we require at least a four-month gap between the portfolio formation month and the fiscal year end to ensure that investors have financial statement data prior to forming portfolios. Panel B reports time series averages of the spreads in $SRET$ and characteristics along with their associated t-statistics between value repurchasers (VR) and growth issuers (GI) denoted by VR-GI, and between value issuers (VI) and growth repurchasers (GR) denoted by VI-GR. The sample consists of 105,896 firm year observations (except financial firms) with data on Compustat and CRSP for the period 1962-2003. $\Delta DEBT$ is defined in panel A of table 2, while all other variables in table1.

**Table 6**
**Cross Sectional Regressions**

**Panel A: Regressions of $RET$ on $BV/MV$ and $\Delta XFIN$**

| Constant | $SIZE$ | $BV/MV$ | $\Delta XFIN$ |
|---|---|---|---|
| 0.235<br>(3.905) | -0.013<br>(-1.767) | 0.027<br>(2.274) | |
| 0.24<br>(3.964) | -0.017<br>(-2.514) | | -0.231<br>(-6.487) |
| 0.234<br>(3.915) | -0.014<br>(-2.004) | 0.026<br>(2.226) | -0.225<br>(-6.454) |

**Panel B Regressions of $RET$ on $BV/MV$, $\Delta EQUITY$ and $\Delta DEBT$**

| Constant | $SIZE$ | $BV/MV$ | $\Delta EQUITY$ | $\Delta DEBT$ |
|---|---|---|---|---|
| 0.239<br>(3.941) | -0.018<br>(-2.643) | | -0.227<br>(-4.223) | |
| 0.241<br>(3.968) | -0.015<br>(-2.196) | | | -0.188<br>(-4.922) |
| 0.24<br>(3.974) | -0.017<br>(-2.598) | | -0.243<br>(-4.528) | -0.213<br>(-5.671) |
| 0.234<br>(3.919) | -0.014<br>(-2.092) | 0.027<br>(2.301) | -0.251<br>(-4.603) | -0.203<br>(-5.626) |

**Panel C: Regressions of $RET$ on $\Delta XFIN$, $\Delta EQUITY$, $\Delta DEBT$, $SG$ and $\Delta AT$**

| Constant | $SIZE$ | $\Delta XFIN$ | $\Delta EQUITY$ | $\Delta DEBT$ | $SG$ | $\Delta AT$ |
|---|---|---|---|---|---|---|
| 0.246<br>(4.001) | -0.015<br>(-2.188) | | | | -0.071<br>(-2.966) | |
| 0.238<br>(3.923) | -0.016<br>(-2.234) | | | | | 0.055<br>(2.884) |
| 0.242<br>(3.961) | -0.017<br>(-2.475) | -0.214<br>(-5.375) | | | -0.035<br>(-1.368) | |
| 0.24<br>(3.964) | -0.017<br>(-2.499) | -0.219<br>(-6.077) | | | | 0.014<br>(0.746) |
| 0.243<br>(3.971) | -0.017<br>(-2.554) | | -0.23<br>(-4.113) | -0.191<br>(-4.716) | -0.036<br>(-1.408) | |
| 0.24<br>(3.97) | -0.017<br>(-2.59) | | -0.233<br>(-4.318) | -0.198<br>(-5.336) | | 0.016<br>(0.844) |

*Notes:* Table 6 reports results from Fama and MacBeth (1973) regressions of one-year ahead raw stock returns $RET$ on external financing measures, $BV/MV$, $SG$ and $\Delta AT$. For this purpose, we estimate annual cross-sectional regressions and report the time series averages of the parameter coefficients along with their associated t-statistics (in parenthesis). The sample consists of 105,896 firm year observations covering firms (except financial firms) with available data on Compustat and CRSP for the period 1962-2003. $SIZE$ is natural logarithm of market capitalization, external financing measures are defined in panel A of table 2, while and all other variables in table 1.

## Table 7

### Sensitivity Analysis

**Panel A: Regressions of $RET$ on $BV/MV$ and $\Delta XFIN$ (Overlap subsample)**

| Constant | $SIZE$ | $BV/MV$ | $\Delta XFIN$ |
|---|---|---|---|
| 0.247 | -0.013 | 0.058 | |
| (4.111) | (-1.771) | (4.002) | |
| 0.236 | -0.016 | | -0.3 |
| (3.803) | (-2.182) | | (-4.794) |
| 0.238 | -0.013 | 0.036 | -0.209 |
| (3.945) | (-1.856) | (2.707) | (-4.641) |

**Panel B: Regressions of $RET$ on $BV/MV$ and $\Delta XFIN$ (Non-overlap subsample)**

| Constant | $SIZE$ | $BV/MV$ | $\Delta XFIN$ |
|---|---|---|---|
| 0.228 | -0.014 | -0.003 | |
| (3.817) | (-1.964) | (-0.278) | |
| 0.232 | -0.016 | | -0.103 |
| (3.941) | (-2.342) | | (-2.271) |
| 0.23 | -0.015 | 0.012 | -0.153 |
| (3.855) | (-2.074) | (1.040) | (-3.212) |

*Notes:* Table 7 reports results from Fama and MacBeth (1973) regressions of one-year ahead raw stock returns $RET$ on external financing measures and $BV/MV$ for subsamples where they have same and opposite predictions for future stock returns. For this purpose, we estimate annual cross-sectional regressions and report the time series averages of the parameter coefficients along with their associated t-statistics (in parenthesis). The sample consists of 105,896 firm year observations covering firms (except financial firms) with available data on Compustat and CRSP for the period 1962-2003. The overlap subsample consists of firms with lower than median BV/MV & higher than median ΔXFIN and firms with higher than median BV/MV & lower than median ΔXFIN. The non-overlap subsample contains firms with lower than median BVMV & ΔXFIN and firms with higher than median BV/MV & ΔXFIN. $SIZE$ is natural logarithm of market capitalization, external financing measures are defined in panel A of table 2, while and all other variables in table 1.